http://dnr.state.il.us

George H. Ryan, Governor • Brent Manning, Director

August 23, 2002

US Environmental Protection Agency Methyl Bromide Critical Use Exemption Global Programs Division, Mail Code 6205J 1200 Pennsylvania Ave., NW Washington, DC 20460-0001

To whom it may concern:

Enclosed is an application for Methyl Bromide Critical Use Exemption from the State of Illinois, Department of Natural Resources, Nursery Program. If you need additional information please contact Mr. Gayle Rampley at (309)535-2185.

Sincerely,

Michael Mason, Section manager

Habitat Development

Division of Resource Protection and Stewardship

cc:

Dave Horvath
Gayle Rampley

enclosure

JE 02 0011



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

# Application for Critical Use Exemption of Methyl Bromide for Use in 2005 in the United States

# WHY IS THIS INFORMATION NEEDED?

Under the Clean Air Act and the international treaty to protect the ozone layer (the Montreal Protocol on Substances that Deplete the Ozone Layer), the production and import of methyl bromide will be phased out in the United States on January 1, 2005. This application seeks information to support a U.S. request to produce and import methyl bromide for certain critical uses and circumstances beyond this 2005 phaseout date.

The information in this application will be used to review whether your use of methyl bromide is "critical" because no technically and economically feasible alternatives are available. In order to estimate the loss as a result of not having methyl bromide available, EPA needs to compare data (yields, crop/commodity prices, revenues and costs) for your use of methyl bromide with uses of alternative pest control regimens.

If you submit a well documented application with sound reasons why afternatives are not technically and economically feasible, the U.S. government can be a better advocate for your exemption request internationally.

Click on the Instructions tab located at the bottom of the screen for additional information.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. Public reporting burden for this collection of information is estimated to average 324 hours per response and assumes a large portion of applications will be submitted by consortia on behalf of many individual users of methyl bromide. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a current OMB control number.

OMB Control #

2060-0482



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

#### **INSTRUCTIONS**

The information provided by you in this application will be used to evaluate the requested methyl bromide use. The U.S. and other countries that are parties to the Montreal Protocol On Substances That Deplete The Ozone Layer decided that: "a use of methyl bromide should qualify as "critical" only if the nominating Party determines that:

- (i) The specific use is critical because the lack of availability of methyl bromide for that use would result in a significant market disruption; and
- (ii) There are no technically and economically feasible alternatives available to the user that are acceptable from the standpoint of environment and health and are suitable to the crops and circumstances of the nomination ..."

environment and he	alth and are suitable to the crops and circumstances of the nomination"
WHO APPLIES?	If you anticipate that you will need methyl bromide in 2005 because you believe there are no technically and economically feasible alternatives, then you should apply for the critical use exemption. This application may be submitted either by a consortium representing multiple users or by individual users. We encourage users with similar circumstances of use to submit a single application (for example, any number of pre-plant users with similar soil, pest, and climactic conditions can submit a single application.)
	If a consortium is applying for multiple methyl bromide users, the economic data should be for a representative or typical user within the consortium unless otherwise noted. If economic or technical factors (such as size of the farm) affecting the ability of this "representative user" to use alternatives are significantly different than other users in the consortium, more than one application should be submitted to reflect these differences.
:	Please contact your local, state, regional or national commodity association and/or state representative agency to find out if they plan on submitting an application on behalf of your commodity group.
STATE CONTACTS	States that have agreed to participate in the exemption process are listed on EPA's website at www.epa.gov/ozone/mbr/cueqa.html
HOW DO I APPLY?	You may either complete an electronic (Microsoft Excel) or a printed version of the application. Please fill out each form or worksheet in the application as completely as possible. If you are completing the printed version and need extra space you may attach additional sheets as needed. Additional information may be available from your local state department of agriculture or at the sites listed below or by calling 1-800-296-1996.
SECTIONS OF WORKBOOK	Each worksheet number corresponds to the tab number in the electronic version of the application. Instructions specific to each worksheet are provided at the top of each sheet. A header row is included on each worksheet to include an application ID number that EPA will assign.
	Instructions
	Worksheet 1. Contact and Methyl Bromide Request Information
	Worksheet 2. Methyl Bromide - Historical Data
	2-A. Methyl Bromide Use 1997-2000
	2-B. Methyl Bromide - Crop/Commodity Yield and Revenue 1997-2000
	2-C. Melhyl Bromide - Crop/Commodity Yield and Revenue 2001
	2-D. Methyl Bromide Use and Costs for 2001
	2-E. Methyl Bromide - Other Operating Costs for 2001
	2-F. Methyl Bromide - Fixed and Overhead Costs
	Worksheet 3. Alternatives - Feasibility of Alternatives to Methyl Bromide
	3-A. Alternatives - Technical Feasibility
	Research Summary Worksheet
	Example Research Sum (Summary) Worksheet
	3-B. Alternatives - Pest Control Regimen Costs
	3-C. Alternatives - Crop/Commodity Yield and Revenue
	3-D. Alternatives - Other Operating Costs
	Worksheet 4. Alternatives - Research Plans
	Worksheet 5. Additional Information
	Worksheet 6. Application Summary
	Fumigation Cycle
	Climate Zone Map
OMB Control #	2060-A482



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

IS MY	The applicant may assert a business confidentiality claim covering part or all of the information in the
IS MY INFORMATION CONFIDENTIAL?	application by placing on (or attaching to) the information, at the time it is submitted to EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as trade secret, proprietary, or company confidential. Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the applicant, and may be submitted separately to facilitate identification and handling by EPA. If the applicant desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state. Information covered by a claim of confidentiality will be disclosed by EPA only to the extent, and by means of the procedures set forth under 40 CFR Part 2 Subpart B; 41 FR 36902, 43 FR 400000. 50 FR 51661. If no claim of confidentiality accompanies the information when it is received by EPA, it may be made available to the public by EPA without further notice to the applicant. Applicants submitting their application via e-mail assume responsibility for the confidentiality of the electronic message transmission.
WHEN IS THE INFORMATION	This application must be postmarked to the EPA address below no later than 120 days after the Notice was published in the Federal Register requesting critical use exemption applications.
NEEDED?	6
WHERE DO I SUBMIT THE	Electronic Address for applications:
APPLICATION?	methyl.bromide@epa.gov
A. I Elozinian.	(When submitting an application electronically, you should also print a hard copy, sign the copy, and submit it by mail)
ļ	Mailing Address for applications being submitted by mail directly to the EPA:
	US Environmental Protection Agency
	Methyl Bromide Critical Use Exemption
	Global Programs Division, Mail Code 6205J
	1200 Pennsylvania Ave, NW
	Washington, DC 20460-0001
}	Address for applications being sent by <u>courier</u> or <u>non-U.S. Postal overnight express</u> delivery to EPA:
ı ·	US Environmental Protection Agency
	Methyl Bromide Critical Use Exemption
	Global Programs Division
	501 3rd St. NW
	Washington, DC 20001
	phone: (202) 564-9410
HOW CAN I	If you have general questions about this application call:
RECEIVE ADDITIONAL	Stratospheric Ozone Hotline
INFORMATION?	1-800-296-1996



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

#### EXCEL USER TIPS

#### Inserting a blank worksheet:

- 1 To add additional blank worksheets in the Excel file, go to the menu line at the top of the worksheet and select "Insert" then "worksheet"
- 2 A lab with the name "Sheet 1" will appear at the bottom of the worksheet and will be highlighted in white. Take the cursor and double click the "new lab"
- 3 By double clicking in the lab you can now rename the worksheet to the appropriate number letter designation (e.g., 3-A(1), 3-A(1)(a), etc.)
- 4 To move a newly inserted worksheet, simply drag the worksheet with your mouse to the desired location.
- Once you add a new worksheet, Excel will automatically name each subsequently added worksheet as Sheet 2, Sheet 3, Sheet 4, etc... Follow the instructions above to rename the new blank worksheets as appropriate.

#### Copying and pasting an entire worksheet's contents into a blank worksheet:

- Select the worksheet to be copied by clicking on the worksheet tab at the bottom of the screen. The lab will turn white in color when it has been selected.
- Select the top left corner of the worksheet (this is the space to the left of the column A and above the row 1. You will know that the entire worksheet has been selected because the row and column marks as well as the worksheet itself will change to a different color.
- 3 Go to the menu line at the top of the worksheet and select "Edit" then "Copy".
- 4 Go to the blank worksheet where you want the copied information to be pasted.
- 5 Again, select the top left corner of the worksheet (left of column A and above row 1) to select the entire/ worksheet.
- 6 Go to the menu line at the top of the worksheet and select "Edit" then "Paste"
- 7 Change the title row of the newly pasted worksheet from the old worksheet number to be consistent with the worksheet tab.

Note: This is the only way you can copy a worksheet and not lose portions of the text instructions.

#### Viewing worksheets

Worksheets are best viewed in "Page Break Preview." To select the view of the worksheet, go to the menu bar and select "View" and then "Page Break Preview." Page break preview shows only the printable area of the worksheet, with the blue lines that surround the screen indicating the edges of each page.

To increase or decrease the size of the page that is viewable on the screen, go to the menu bar and select "View" and then "Zoom".

#### Navigating between worksheets

The set of four arrows on the bottom left of the screen will help you navigate between worksheets. This is necessary to access the remaining worksheet labs in the workbook that are not viewable. The two arrows with vertical lines to either the left or right will take you to the first worksheet and to the last worksheet respectively in the workbook. The inner two arrows allow you move the worksheet labs to the right or to the left incrementally.

The two arrows on the bottom right of the screen allow you to move the worksheet that you are viewing to the right or to the left. This is useful if the viewable area of on the screen is smaller than the entire page that is in the worksheet.

#### Printing worksheets

If you would like to print all worksheets that are contained in this workbook, go to the menu bar at the top of the screen and select "File" and then "Print." Then in the section of the menu that appears called "Print what," select "Entire Workbook."

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## Worksheet 1. Contact and Methyl Bromide Request Information

The following information will be used to determine the amount of methyl bromide requested and the contact person for this request. It is important that we know whom to contact in case we need additional information during the review of the application.

1.	bromide.)	It the location if relevant to the feasibility of alternatives to methyl
	Illinois - Mason County +	Union Gunty
2.	Crop/commodity	ion of methyl bromide in a fumigation cycle. A fumigation cycle is
3.	Climate (Individual users should enter their climate zone designation submitting this application, please indicate the estimated pellocated at the end of this workbook or it can be reviewed on	n by reviewing the U.S. climate zone map. If a consortium is creentage of consortium users in each climate zone. This map is line at http://www.usna.usda.gov/ Hardzone/ushzmap.html).
	$\frac{55}{6b} = \frac{63\%}{37\%}$	
4.		organic matter that apply to your area. If a consortium is submittin
	Soil Type: Light Me	dium Heavy
	Organic Matter: 0 to 2% 2 t	
5.	Other geographic factors that may affect crop/commodi	
	Sandy soil	
6.	Consortium name	Specialty (check one)
7.	Contact name Gale Rampley	agronomic
8.	Address 17855 N. CR 2400 E	economic
	Toleka IL 6156	27_
9.	Daytime phone 309 - 535 - 2/85	_7_ 10. FAX <u>309-535-3286</u>
11.	E-mail	·
	List an additional contact person if available.	Specialty (check one)
12.	. Contact name	agronomic
13.	Address	economic
14.	Daytime phone	15. FAX
	. E-mail	

## Worksheet 1. Contact and Methyl Bromide Request Information

17.	How much active ingredient (ai) of methyl bromide are you requesting for 2005?
	If a consortium is submitting this application, the data for question 17 and 17a, should be the total for the consortium.
	In the question below, area is defined as follows for each user: acres for growers, cubic feet for post harvest operations, and square feet for structural applications.
	17a. How much area will this be applied to? Please list units. 40 Acres units
18.	Are you requesting methyl bromide for additional years beyond 2005?  Yes
	18a. If yes, please list year and quantity active ingredient (ai) of methyl bromide requested in the table below and explain why you need authorization for multiple years.
	We grow our hardwood tree and strub seedlings; and Prairie For
	every year, therefore we need methyl bramide to Sterilize and
	Soil for a clear start to our plants
	If a consortium is submitting this application, the data below should be the total for the consortium.
	In the table below, area is defined as follows for each user: acres for growers, cubic feet for post harvest operations, and square feet for structural applications.
	Year Quantity ai (lb.) of Methyl Bromide Area to be Treated Unit of Area Treated
	2006 9400 lbs 40 Acres
	2007 9408 lbs 40 Acres
	Weed seed, Insects, Forgi, and Memotodes
	If applying as a consortium for many users of methyl bromide, please define a representative user. Define exactly,
20.	If applying as a consortium for many users of methyl bromide, please define a representative user. Define exactly, issues such as size of the operation (acres treated with methyl bromide for growers, cubic feet for post-harvest operations, and square feet for structural applications), whether the representative user owns or rents the land or operation, intensity of methyl bromide use (treat regularly or only when pest reaches a threshold), pest pressure, etc.
	•
	20a. Explain why this user represents the typical user in the consortium.

## Worksheet 2. Methyl Bromide - Historical Use of Methyl Bromide

Purpose of Data: To establish a baseline estimate of crop/commodity yields, gross revenues, and costs using methyl bromide.

bromide.		
Worksheet	Title	Instructions specific to each worksheet are located at the top of each sheet.
2-A	Methyl Bromide Use for 1997 - 2000	This worksheet provides data in actual usage for 1997-2000.
2-B	Methyl Bromide - Crop/Commodity Yield and Gross Revenue for 1997- 2000	This worksheet provides crop/commodity yield and gross revenue for 1997 through 2000.
2-C	Methyl Bromide - Crop/Commodity Yield and Gross Revenue for 2001	This data provides historical information on crop/commodity yield and gross revenue for 2001.
2-D	Methyl Bromide Use and Costs for 2001	This worksheet isolates use and cost data for 2001.
2-E	Methyl Bromide - Other Operating Costs for 2001	. This data is needed to estimate a baseline for operating costs in order to estimate the impact on operating profit and short-run economic viability as a result of not using methyl bromide.
2-F	Methyl Bromide - Fixed And Overhead Costs for 2001	This data is needed to estimate a baseline for total costs in order to estimate the impact on profitability and long-run economic viability as a result of not using methyl bromide.

## Worksheet 2-A. Methyl Bromide - Use 1997-2000

If a consortium is submitting this application, a	all data should	reflect the ac	tual data for	the consortiun	n.					<del></del>		
" " " " " " " " " " " " " " " " " " " "												
Col A: Formulation of Methyl Bromide	averages	for all formula							l formulations nulations typic			
Col B, E, H, K: Actual Area Treated		total actual ar n, for the year		ote: This num	nber should b	e the total act	ial area treate	ed by the indiv	idual user or I	total actual ar	ea for the enti	re
Col C, F, I, L: Actual Total lbs. ai of Methyl Bromide Applied			ounds active in ntire consortiu			nide applied.	Note: This no	umber should	be the total po	ounds ai appli	ed by the	
Col D, G, J, M: Actual Average lbs. ai Applied per Area	The avera	ige application	n rates in pour	nds ai of meth	yl bromide pe	r area are aut	ematically cal	culated from t	he previous 2	columns.		
Area is defined below as follows for each us	ser: acres for	growers, cubi	c feet for post	-harvest opera	itions, and sq	uare feet for s	tructural appl	ications.				
А	8	С	D	E	F	G	н	1	J	К	L	М
Formulation of Methyl Bromide		1997			1998			1999			2000	
	Total Actual Area Treated	Actual Total lbs. ai of Methyl Bromide Applied	Average lbs. ai Applied per Area	Area	Actual Tota lbs. ai of Methyl Bromide Applied	Average Ibs. ai Applied per Area	Area	Actual Total Ibs. ai of Methyl Bromide Applied	Average Ibs. ai Applied per Area	Total Actual Area Treated	Actual Total lbs. ai of Methyl Bromide Applied	Average Ibs. ai Applied per Area
over 95% methyl bromide	371/2	12,863	343	37	12,691	343						
75% methyl bromide, 25% chloropicrin												
67% methyl bromide, 33% chloropicrin							41	9635	235	391/2	9283	235
50% methyl bromide, 50% chloropicrin												
% methyl bromide,% chloropicrin								İ				
% methyl bromide,% chloropicrin								į				
All formulations of methyl bromide												

Comments:

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### Worksheet 2-B. Methyl Bromide - Crop/Commodity Yield and Gross Revenue 1997-2000

	······································							
	3	,	nis table should reflect the ac	•				
		in operations when provi	iding gross revenue data.		t-harvest and structural users may wor			
Col. A: Year		2000. If a fumigation applied.	cycle overlaps more than or	ne calendar year, then the	Il the crops/commodities in the fumiga e year of the fumigation cycle is the yea	ar methyl bromide was		
Col. B: Crop/Con	nmodity	and tomatoes are gro peppers would be pa cycle.  If someone other that quantitative data for t	own and harvested followed to rt of the same fumigation cyc n the applicant benefits from the crops grown on the same	by peppers without an add tle.) See the Fumigation of the application of methylated, please indicate so	gation cycle. (For example, if normally ditional treatment of methyl bromide, the Cycle Worksheet for a comprehensive bromide in the fumigation cycle and you in the comments section below.	nen both tomatoes and definition of the fumigation		
Col. C: Unit of Crop/Commodity		Enter the unit of mea	surement for each crop/com	modity.				
Col. D: Crop/Con			units of crop/commodities pro					
Col. E: Price					nodity indicated (1997-2000).			•
Col. F: Revenue			lated automatically using the plain why the revenue amoun		ols. D and E. You may override the for ent section below.	mula to enter a different		
Total Revenue for	r 1997-2000	Enter the total revenu	ue per year by adding the rev	venue for all crops for tha	t year.			
Average Revenue	per Year:	The average revenue	e per year is calculated autor	natically using the summ	ary data you enter for each year.			
Area is defined b	elow as follows	for each user: acres for	growers, cubic feet for post-	harvest operations, and s	quare feet for structural applications.			
A		8	С	D	E	F		
Year Methyl Bromide was Applied	Cro	p/Commodity	Unit of Crop/Commodity (e.g., pounds, bushels)	Crop/Commodity Yield (Units per area)	Price (per unit of crop/commodity)	Revenue (per area)		
1997	Tree	Seedlings	individual Time	127,273/Acie	34 Cents Tree	86,546 \$ 0.00 26,520 \$ 0.00	Mine	
	Shrub	Seedlings root stack	individual Shows	78,000/ALIE	4 Cents for each	12 5000 0.00	/A cru	
e ( )		Seed Srelliand	Fodividual Trees	136,364/Acre	139, se / Pour	92,728 \$ 0.00	ALIE	
AAR	Shook	Section	Individual Shows	50,800 ALL	34 (4-15/shi-b	17,272,0 \$ 0.00	Acie	
		ast SKIZ	The district Knot Stock	230,000 Acre	\$4000 /10mm	9, 200,2 \$ 0.00 22,000 \$ 0.00		
1999	Trees	Scalling	Individual Trees	133,333/14	60 Cents 1, time	80,000,2\$ 0.00	VACIC	
	Sheab	Secoling	II dividual Should	72,000/Acre	1/2 Cents / Shink	30,240,05 0.00		
	1	Secret Stock	Individual Kost Stock	287,500/ACIA	4 Cents for each	20,400,00\$ 0.00		
	fork.				Total Revenue for 1997	145,296 = \$ 0.00	VALIE	
Methal Br	romide i	, applied the	In before plan	المر إلى	Total Revenue for 1998	141, 200 00 \$ 0.00		
3		11		7	Total Revenue for 1999 Total Revenue for 2000	142,140 = \$ 0.00	1/K, re.	
					Average Revenue Per Year		147,879 1 / Nue	Average
Comments: 2000	7146	Seculings	Individual Trees	148,485/Acre	60 certs per Tree	89,091,02/Kill		•
		V Spedlings,	Individual Shinks	104,000/Acia	42 Cents An Shinb	43,680 m/ / 1/2		
	- E.	, Pool Stak	I division Pen Stock	210,000/ACIL	4 Cents for each	840071cm		
OMB Control # 2060-04	182			= 10 /11 (1	10, 10 / 104 -1	21, 758001.10		

### Worksheet 2-C. Methyl Bromide - Crop/Commodity Yield and Gross Revenue 2001

If a consortium is submitting this application, the data for this table should reflect the representative user for the consortium.

The purpose of this worksheet is to estimate the gross revenue for 2001when using methyl bromide. Post-harvest users may modify this form to accommodate differences when providing gross revenue data. If 2001 was not a typical year for the individual or for the representative user of a consortium, the applicant may provide additional data for a different year. However, all applicants must complete this worksheet for the year 2001 regardless. Please explain in the comment section at the bottom of the worksheet why 2001 is not considered a typical year, if that is the case.

Col. A: Crop/Commodity	Enter all crops/commodities that benefit from methyl bromide in the fumigation cycle (interval between fumigations) beginning with the treatment of methyl bromide in 2001. If multiple crops are grown during the interval between fumigations (e.g. tomatoes followed by peppers in a single growing season, or strawberries followed by lettuce over 2 or 3 years) include all of the crops during the entire interval. See the Fumigation Cycle Worksheet for a comprehensive definition of the fumigation cycle.
	If someone other than the applicant benefits from the application of methyl bromide in the fumigation cycle and you do not have the quantitative data for the crops grown on the same land, please indicate so in the comments section below.
Col. B: Price Factors	Enter factors that determine prices (e.g., grade, time, market). If you received different prices for your crop/commodity as a result of quality, grade, market (e.g. fresh or processing), timing of harvest, etc., you may itemize by using more than one row. Itemize or aggregate these factors to the extent appropriate in making the case that the use of methyl bromide affects these price factors.
Col. C: Unit of Crop/Commodity	Enter the unit of measurement for each crop/commodity.
Col. D: Crop/Commodity Yield	Enter the number of units of crop/commodity produced per area for that price factor.
Col. E; Price	Enter average 2001 prices received by the users for that crop/commodity and price factor.
Col. F: Revenue	Revenue is automatically calculated using the data you entered for yield and price. If revenue is not equal to yield times price, you may override the formula and enter a different revenue amount. Please explain why this revenue amount is different in the comment section below.

Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.

١	A	В	. С	D	E	F	
	Crop/Commodity	Price Factors (grade, time, market)	Unit of Crop/Commodity (e.g., pounds, bushels)	Crop/Commodity Yield (Units per area)	Price (per unit of crop/commodity)	Revenue (per area)	
Ì	Tree Scedlings .		Individual Tree	120,060/Acie	68 Cents/Tree	181,6415 0.00 126,26954.00	A
Ì	For L Knot stock		Traditional Kent Stock	130,000 /Acie	1 4 Ce-ts each	5200 50.00	J,A
-	For Fred		Pounds	500/Acie	1 39.30 per pand	19,650 \$ 0.00	A
Ì						\$ 0.00	]
}						\$ 0.00 \$ 0.00	1
						\$ 0.00	1
-						\$ 0.00	_
					Total Revenue	\$ 0.00 1/32 765 \$ 1.00	1/1

Comments: Price Factor - W. Hout Methyl Bromide, we would have much more manual labor pulling weeds, also the disease and insect would take its foll on our numbers.

## Worksheet 2-D. Methyl Bromide - Use and Costs for 2001

Comments:

actual area treated by all users in the consortium	1.					
If the methyl bromide is custom applied then put Treated (Col F).	the cost per area in Co	olumn G and fill in the	e average lb ai of meth	yl bromide applied per are	ea (Col B) and the T	otal Actual Are
If 2001 was not a typical year for the individual or	for the representative	user of a consortium	n, the applicant may pr	ovide additional data for a	different year. Hov	vever, all
worksheet why 2001 is not considered a typical y	ear.					
Col. A: Formulation of Methyl Bromide	methyl bromide. I	f you just enter data i	in the bottom row in the	known, and/or the totals a e table (All formulations of ns, to the extent known.		
Col B: Average lbs. active ingredient (ai) of Methyl Bromide Applied per Area	Enter the average	pounds active ingre	dient (ai) of methyl bro	mide applied per area.		
Cols. C, D, E, G: Prices and Costs	methyl bromide pe methyl bromide (e	er area treated in Col .g., tarps). Column G	I. D. In Col. E, enter the	ethyl bromide in Col. C an e average other costs per omatically using the value Col. G and fill in Cols. B a	area associated with s you entered in col	h applying
	1	• •	•			
Col. F: Actual Area Treated	Enter the actual a	rea treated. Note: 1	This number should be	the total area treated by a		orlium.
Col. F: Actual Area Treated  Area is defined below as follows for each user:	<u> </u>			the total area treated by a	all users in the cons	ortium.
	<u> </u>			the total area treated by a	all users in the cons	ortium. G
Area is defined below as follows for each user:	acres for growers, cub	pic feet for post-harve	est operations, and squ	the total area treated by a	all users in the conso	
Area is defined below as follows for each user:	acres for growers, cub  B  Lb. ai of Methyl  Bromide Applied  per Area	oic feet for post-harve  C  Price per lb. ai of  Methyl Bromide	Cost of Applying Pesticide per Area	the total area treated by a pare feet for structural app  E  Other  MBr Costs (e.g. tarps, etc.) per Area	olications.  F Total Actual Area Treated in the	G
Area is defined below as follows for each user:  A  Formulation of Methyl Bromide	acres for growers, cub  B  Lb. ai of Methyl  Bromide Applied  per Area	oic feet for post-harve  C  Price per lb. ai of  Methyl Bromide	Cost of Applying Pesticide per Area	the total area treated by a pare feet for structural app  E  Other  MBr Costs (e.g. tarps, etc.) per Area	olications.  F Total Actual Area Treated in the	G Cost per Are
Area is defined below as follows for each user:  A Formulation of Methyl Bromide  over 95% methyl bromide	acres for growers, cub  B  Lb. ai of Methyl  Bromide Applied  per Area	oic feet for post-harve  C  Price per lb. ai of  Methyl Bromide	Cost of Applying Pesticide per Area	the total area treated by a care feet for structural app  E  Other  MBr Costs (e.g. tarps, etc.) per Area (2001 Average)	olications.  F  Total Actual Area  Treated in the  Consortium	G   Cost per Are   \$ 0.00
Area is defined below as follows for each user:  A Formulation of Methyl Bromide  over 95% methyl bromide  75% methyl bromide, 25% chloropicrin	acres for growers, cub  B  Lb. ai of Methyl  Bromide Applied  per Area  (2001 Average)	oic feet for post-harve  C  Price per lb. ai of  Methyl Bromide	Cost of Applying Pesticide per Area	the total area treated by a pare feet for structural app  E  Other  MBr Costs (e.g. tarps, etc.) per Area	olications.  F Total Actual Area Treated in the	G   Cost per Are   \$ 0.00
Area is defined below as follows for each user:  A Formulation of Methyl Bromide  over 95% methyl bromide  75% methyl bromide, 25% chloropicrin  67% methyl bromide, 33% chloropicrin	acres for growers, cub  B  Lb. ai of Methyl  Bromide Applied  per Area  (2001 Average)	oic feet for post-harve  C  Price per lb. ai of  Methyl Bromide	Cost of Applying Pesticide per Area	the total area treated by a care feet for structural app  E  Other  MBr Costs (e.g. tarps, etc.) per Area (2001 Average)	olications.  F  Total Actual Area  Treated in the  Consortium	G   Cost per Are   \$ 0.00   \$ 0.00   \$ 0.00   \$ 0.00
Area is defined below as follows for each user:  A Formulation of Methyl Bromide  over 95% methyl bromide  75% methyl bromide, 25% chloropicrin  67% methyl bromide, 33% chloropicrin  50% methyl bromide, 50% chloropicrin	acres for growers, cub  B  Lb. ai of Methyl  Bromide Applied  per Area  (2001 Average)	oic feet for post-harve  C  Price per lb. ai of  Methyl Bromide	Cost of Applying Pesticide per Area	the total area treated by a care feet for structural app  E  Other  MBr Costs (e.g. tarps, etc.) per Area (2001 Average)	olications.  F  Total Actual Area  Treated in the  Consortium	G   Cost per Are \$ 0.00   \$ 0.00   \$ 0.00   \$ 0.00   \$ 0.00
Area is defined below as follows for each user:  A Formulation of Methyl Bromide  over 95% methyl bromide  75% methyl bromide, 25% chloropicrin  67% methyl bromide, 33% chloropicrin  50% methyl bromide, 50% chloropicrin	acres for growers, cub  B  Lb. ai of Methyl  Bromide Applied  per Area  (2001 Average)	oic feet for post-harve  C  Price per lb. ai of  Methyl Bromide	Cost of Applying Pesticide per Area	the total area treated by a care feet for structural app  E  Other  MBr Costs (e.g. tarps, etc.) per Area (2001 Average)	olications.  F  Total Actual Area  Treated in the  Consortium	\$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00

### Worksheet 2-E. Methyl Bromide - Other Operating Costs for 2001

Do not include methyl bromide costs.

If a consortium is submitting this application, the data for this table should reflect a representative user.

Enter all operating costs except methyl bromide costs incurred during the fumigation cycle (interval between fumigations) beginning in 2001. See the Fumigation Cycle Worksheet for a comprehensive definition of the fumigation cycle. Enter these costs in Col B for custom operations, or in Col C and D for operations done by user.

Submit crop budgets for each crop, if available. You may submit crop budgets electronically or in hard copy. If your costs are significantly different than the crop budgets, please explain in the comments.

Col A: Operation	Identify in Col A the operations (except methyl bromide) to which the costs apply. For growers, these operations should include but not limited to (1) prepare soil, (2) fertilize, (3) irrigate, (4) plant, (5) harvest, (6) other pest controls, etc. You must include all other operating costs.
Col B: Custom Operation Cost	If you incur custom operation costs, enter those costs in Col. B.
Col C: Material Cost per Area	If you do not incur custom operation costs, enter the material cost per area.
Col D: Labor Cost per Area	If you do not incur custom operation costs, enter the labor cost per area.
Col E: Total Cost per Area	The total cost per area is calculated automatically from the values you enter in Cols. C and D.
Col F: Typical Equipment Used	Identify the typical equipment used for operations done by user. Please be specific, such as tractor horsepower. No cost data is required in this column.

Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.

A	8	С	D	E	F
Operation	Custom		Operation	Done by User	
	Operation Cost per Area	Material Cost per Area	Labor Cost per Area	Total Cost per Area	Typical Equipment Used
Plowing		4.00 /Acre	412/Acie	\$ 0.00	Tractor + Plow
Discina		4.00 /Acie	4.42/ Nela	8 0.00	Tractor + DISC
field Callivedia - twice		10,0 /Acia	8.00/Acre	1800 5 0.00	Tractor of Field Callington
Bed forming		12.00/hers	6.00 /Acre	18 \$ 0.00	Tractor of Beat Former
Planting		72300 leis	2400/Acre	7254° \$ 0.00	Trackert Planter,
Mulching		10 2 Acre	12.02/ALIE	1 22 m 8 0.00	Tractor + Malching machi
Weeding - Manually		500/Acre	2020 m/Acre	2025 \$ 0.00	Tractor + Wagon
Feetilier		7000/Acre	16,50/Acre	860 \$ 0.00	Tracker + Spreader
Imading		1001Acre	360,00/Ac1e	370° \$ 0.00	Tringatus & Pipe
Pest Contol		500 Acre	16.00/Acre	66 00 S 0.00	Tracker + Syragen
Harvest		320 /Nue	3600 =/Acre	36320 S 0.00	Trector & Littur - wego
Gradier		500/Auc	36000/Acre	360500 s 0.00	Cards - Belts
0				\$ 0.00	
Total Custom per Area	\$ 0.00		User Total per are	a 17,112 = \$ 0.00	]

# Worksheet 2-F. Methyl Bromide Fixed and Overhead Costs in 2001

If a consortium is submitting this	application, the data for this table should reflect a rep	resentative user.			
Enter all fixed for a comprehensive definition o	f the fumigation cycle.				
Col A: Cost Item	Identify in Col. A the cost items. These items should include, but are not limited to: (1) land rent, (2) interest, (3) depreciation,				
Col B: Description	Please describe the cost in more detail.				
Col C: Allocation Method	Please describe how you estimated the portion of total fixed cost of the farm or entity that applies to this crop/commodity.				
Col D: Cost per Area	Enter the cost per area of methyl bromide treated.				
Area is defined below as follow	vs for each user: acres for growers, cubic feet for post-	-harvest operations, and square feet for structural applica	ations.		
A	В	. C	D		
Cost Item	Description	Allocation Method	Cost per Area		
land	Gost to use the ground	We use 15% of our grow out year	2002/Ane		
Buildings	Cost to use the souldings	Majorty of the Methyl Bromile Crops are	250 0 / Ane		
		Processes Print			
			- (II)		
		Total	450 00 S0.00		
Comments:					
Comments.					
,			·		

## Worksheet 3. Alternatives - Feasibility of Alternative Pest Control Regimens

Purpose of Data on Alternative Pest Control Regimens: To estimate the loss as a result of not having methyl bromide available. EPA needs to compare data (yields, crop/commodity prices, gross revenues and costs) on the use of methyl bromide and alternative pest control regimens.

Complete each of the worksheets below (3-A, 3-B, 3-C, and 3-D) for each alternative pest control regimen listed in the "U.S. Matrix" for chemical controls (www.epa.gov/ozone/mbr/cueqa.html) and the "International Matrix" for non-chemical pest controls (www.epa.gov/ozone/mbr/cue). Each worksheet contains a place holder in the title for you to insert the name of the specific alternative pest control regimen addressed. You should add additional worksheets as required. Please add a number designation to each worksheet title to indicate a different alternative. For example, for the first alternative pest control regimen label the worksheets as 3-A(1), 3-B(1), 3-C(1), and 3-D(1). For the second alternative pest control regimen label the worksheets 3-A(2), 3-B(2), 3-C(2), and 3-(D)(2).

Enter all alternative pesticides and pest control methods (and associated cost and yield data) that would replace one treatment of methyl bromide throughout the fumigation cycle. See the fumigation cycle worksheet for a comprehensive definition.

Worksheet	Title	
3-A	Alternatives - Technical Feasibility	This form is used to obtain information on the chemical alternatives identified by the Methyl Bromide Technical Options Committee (MBTOC) that are registered for use in the United States, as well as the non-chemical alternatives identified by the MBTOC. Applicants must address the technical feasibility of all the chemical and non-chemical alternatives identified on the list.
3-B	Alternatives - Pest Control Regimen Costs	This form is used to estimate the cost of using alternative pest control regimens.
3-C	Alternatives - Crop/ Commodity Yield and Gross Revenue	This form is used to estimate the crop/commodity yields and gross revenues when using alternative pest control regimens.
3-D	Alternatives - Changes in Other Costs	This form is used to estimate change in any other costs as a result of using the alternatives.

## Worksheet 3-A. Alternatives - Technical Feasibility of Alternatives to Methyl

Bromide	
In this worksheet, you should address why an alternative part effective for your conditions. This worksheet contains	est management strategy on the list (see previous page) is or is 9 questions. You must complete one copy of worksheet 3-A for
each research study you use to evaluate a single methyl br	omide alternative. Use additional pages as need.
number the worksheets as follows. For the same alternative same alternative, second research study, label the workshe the worksheet 3-A(1)(c). For the second alternative, first realternative, second research study, label the worksheet 3-(	
When completing Section II, if you cite a study that is on the	e EPA website, you only need to complete questions 1, 5, and 8.
If you prefer, you may provide the information requested in research reports. The narrative review must reply to Section Worksheet of relevant treatments should be provided for experience.	this worksheet in a narrative review of one or more relevant on I and questions 1 through 8 in Section II. A Research Summary ach study reviewed.
BACKGROUND	
successfully instead of methyl bromide by crop and circumstand	pesticide and non-pesticidal, and their combination) could be used be (geographic area.) The Agency has developed a list of possible be found at http://www.epa.gov/ozone/mbr or by calling 1-800-296-1996
There are three major ways you can provide the Agency with positive (1) Conduct and submit your own research (2) Cite research that has been conducted by others (3) Cite research listed on the EPA website	
scientifically sound manner. The studies should include a descr application intervals, pest pressure, weather conditions, varietic outcome. You must submit copies of each study to EPA unl	
The Agency has posted many research studies on a variety of EPA will add studies to its website as they become publicly avawebsites for studies that pertain to your crop and geographic and	crops on its website and knows of more studies currently in progress, ilable. You are encouraged to review the EPA website and other rea.
In addition, EPA acknowledges that, for certain circumstances, research has been conducted (i.e. solarization may not be feas the Agency and explain why they cannot be used for your crop	ible in Seattle). You should look at the list of alternatives provided by
	ıl pages as needed.
Alternative: [Insert Alternative]	Study: [Insert Study Title]
Section I. Initial Screening on Technical	Feasibility of Alternatives
Are there any location-specific restrictions that inhibit the	ne use of this alternative on your site?
1a. Full use permitted	$\mathcal{N}_{O}$
1b. Township caps	$N_{o}$
1c. Alternative not acceptable in consuming country	$\overline{\mathcal{N}_{\mathcal{O}}}$
1d. Other (Please describe)	<u>No</u>
	-

If use of this alternative is precluded by regulatory restriction for all users covered by this application, the applicant should not complete Section II.

, ,	For EPA Use Only ID#
	- Technical Feasibility of Alternatives to Methyl
Section II. Existing Résearch	n Studies on Alternatives to Methyl Bromide
Is the study on EPA's website?  1a. If not on the EPA website, please.	Yes No
2. Author(s) or researcher(s)	
3. Publication and Date of Publication	
4. Location of research study	
Basin & Ganular	e than one alternative, list the ones you wish to discuss.
6. Was crop yield measured in the study?	? Yes No
7. Describe the effectiveness of the altern	native in controlling pests in the study.
8. Discuss how the results of the study at	apply to your situation. Would you expect similar results? Are there

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Research	Summary	Table	е
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Basimid for the Friest Nuiser Fidustry Bosinid [Insert Study Title] Study: [Insert Alternative] Alternative: Provide one summary table for each study being described. Provide a summary table of research information that will allow us compare the impact of methyl bromide and the alternative regimen on such things as pest control, yield or quality of the commodity being treated, or protected. Ideally, a research study should directly compare methyl bromide and the alternative regimen. List the treatment number from the research study you are citing. Col. A: Treatment Number List what type of pest control method was used. Col. B: Treatment Enter the pounds or gallons of a chemical used, days of solarization, etc. Col. C: Rate Enter the interval after treatment that the rating was taken. Enter the interval (days, weeks or months) in the column heading or in the comments section. In the comments describe the rating scale Col. D, F, H, J, L, N: (e.g. 0 to 100 where 100 is complete control). Interval Use these columns to describe the level of control provided for a specific pest and the time interval at which the rating was taken. For example, a study for nematode control may have looked at nematode population in the soil pre-treatment, 3 weeks after treatment, and 6 weeks after treatment. In this example, type over the words "Rating Interval 1" with "pre-treatment", type over "Rating Cols. E, G, I, K, M, O: Interval 2" with "3 weeks", and type over "Rating Interval 3" with "6 weeks." If you are completing the printed version, please define Rating Interval in the comments below. Rating for Interval: For the larget pest(s) in the study list the pest or pest species being rated in the column header or the comments section. For example, a study for nematode control in tomatoes may have looked at sting nematode and stunt nematode. Enter sting nematode for pest 1 in the Col F header below and stunt nematode for pest 2 in the Col. L Control of Pests 1 and 2 header below. In the comments section describe the rating system used (0 to 100 scale where 0 is no control, number of nematodes per gram of soil, number of colony forming units per gram of (Cols. D - I and Cols. J -Enter the marketable yield of the crop or commodity and specify the units (lbs /acre, tons) in the column header or comments section. Col. J: Yield Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications. P 0 К L М j н G C ũ ε В Α Yield Pest 2 Pest 1 Rate Treatment (units/area) Treatment Rating for Interval Rating for Interval Rating for (lbs. or gals. ai Interval Rating for Interval Rating for Interval Rating for Interval Number Interval-3 per area) Interval 1 Interval 2 Interval 3 Interval 2 3 Interval 1 250 169 Basimid 375 165 Couldn't find any information from colore Don.

### Example Research Summary Table

	Alternative:		Ex	cample				Study:							
Provide one summary table for	or each study being described.														atad Idoolly
Provide a summary table of research information that will allow us compare the impact of methyl bromide and the alternative regimen on such things as pest control, yield or quality of the commodity being treated, or protected. Ideally, a research study should directly compare methyl bromide and the alternative regimen.															
Col. A: Treatment Number	List the treatment number from the	research study you	are citing	g.											
Col. B: Treatment	List what type of pest control meth	od was used.													
Col. C: Rate	Enter the pounds or gallons of a ci														
Col. D, F, H, J, L, N: Interval	Enter the intervals (days, weeks or months) that the rating was taken for each treatment in Columns D. F. H. J. L. and N. For example, a study for nematode control may have looked at nematode population in the soil pre-treatment, 3 weeks after treatment, and 6 weeks after treatment. For this example, insert "pre-treatment" in the "Interval 1" column, insert "3 weeks" in the "Interval 2" column, and insert "6 weeks" in the "Interval 3" column."														
Cols. E, G, I, K, M, O: Rating for interval:	In columns E, G, I, K, M, and O Insert the rating ( the level of control provided for a specific pest) for each interval for each treatment described. In this example, for the methyl bromide treatment for sting nematode enter 669 for the "Rating for Interval 1", 221 for the "Rating for Interval 2", and 120 for the "Rating for Interval 3." In the comments section below describe the rating scale (e.g., nematodes per gram of soil, number of colony forming units per gram of soil, etc.).  For the target pest(s) in the study list the pest or pest species being rated in the column header or the comments section. For example, a study														
Control of Pests 1 and 2 (Cols. D - I and Cols. J - O):	for nematode control in tornatoes below. In the comments section of	may have looked at escribe the rating sy	sung nem Istem use	natode and s ed (0 to 100	scale when	e 0 is no cor	sting neir itrol, num	ber of nema	nodes pe	r gram of so	der below a il, number o	and stunt ner of colony for	natode for ning units	pest 2 in th per gram of	e Col. L header soil, etc.)
Col. J: Yleld	Enter the marketable yield of the o								ments se	CRON.		<del></del>			
Area is defined below as fo	flows for each user: acres for growers.	cubic feet for post-	narvest of	perations, a	nd square f	eet for struc	tural appl	lications.							
Α	8	С	D	E	F	G	н	ı	J	К	L	М	N	<u> </u>	Ylold
Treatment	Treatment	Rate			កថ្ម កម្មាធរថ						int nemato				(lbs/acre)
Number		(lbs. or gals. al per area)		Rating for Interval 1	Interval 2	Rating for Interval 2	Interval 3	Interval 3	1	Interval 1	2	Rating for Interval 2		Rating Interval 3	5.000
1	Untreated	•	pre-in	700	3 wks	700	ō wks	707	pre-trt	100	3 wks	111	ð wks	109	3.000
2	Methyl Bromide	300 gai	pre-trt	669	3 wks	221	S .VKS	120	pre-Irt	58	3 wks	77	6 wks	36	7,580
3	lodo methane	150 gal.	bre-ru	675	3 ∵vks	250	o wks	125	pre-trt	111	3 wks	35	ō wks	32	7,300
								<u> </u>	ļ					-	
								1	i	ļ					

Comments:

Ratings are for nematodes per gram of soil

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	pplication, the data	for this table sh	ould reflect a repr	esentalive us	ier.					-1. C - 15.	E minution C	ugio	
Col. A: Name of Product and Non-chemical Control	Enter all alternatives and non-chemical pest control that would replace one treatment of methyl bromide throughout the furnigation cycle. See the Furnigation Cycle Worksheet for a comprehensive definition of the furnigation cycle. If multiple crops are grown during the interval between furnigations (e.g. tomatoes followed by peppers in a single growing season, or strawberries followed by lettuce over 2 or 3 years) include all of the pesticides that replace methyl bromide for the entire interval. Oo not include pesticides that are used along with methyl bromide-enter only the additional pest control if methyl bromide were not available.												
	crops grown or	If someone other than the applicant previously benefited from the application of methyl bromide in the furnigation cycle and you do not have the quantitative data for the crops grown on the same land, please indicate so in the comments section below.											
Col. B: Target Pests	1		arding the species										
Col. C: Active Ingredients	Use one row for B (if applicable	or each active in	ngredient (ai). For id to be completed	example, if a I for additional	product contain rows regarding	s 2 ar's use 2 ro the same proof	ows for that p uct.	roduct. Onc	e a row is com	pleted for a	given product,	then only Col.	ı
Col. D; Formulation	Enter the form	ulation or the %	of active ingredie	nt.									(%
Col. E, F, G: Application Rate	1		uesting both the ar										
Col. H, J, M: Prices and Costs	the user, enter they are in the	the price of the comments sec	If the product is c a product in Col. H stion at the bottom	and the cost of this sheet.	of applying it in ( Col. M will be c	Col. I. Enter an	y other costs	associated t	with applying	this product	If a pesticide is in Col. J. spec	applied by ifying what	
Col. K: Area Treated	1		ast one application										
Col. L: # of Applications per Year	l anadia ba an	shote number	ons in a furnigation										
Col. M: Cost per Area in 2001 Dollars	augeriddon if th	ne cost ner 2545	)1 dollars. Col. M a is known becaus	e the product	was custom ap-	olied.						1	
Non-chemical Control	Enter data nea	ar the bottorn of dollars.	the form. Identify	the control in	Col. A. Enter th	ne target pasts (			on-chemical pe	st control C	ol B-L. Enter	the costs in	
													1
Area is defined below as follows	for each user, acre	is for growers, o	cubic feet for post-	harvest opera		re leet for struc	turai applicat			·			
А	В	С	D	E	F	G	Н	ı	J L Others 1	K	L	M Cost per	
				E	F Application Ra Units of product per	G		Cost of	J Other Costs per Application	K Area Treated at Least Once	# of	Cost per Area (2001\$)	
А	B Target Posts	C Active Ingredients (ai) in Product	D Formulation of Product	E Ibs. ai per Area per	Application Ra  Units of product per Area per	G te Product Unit (e.g., lbs.,	H Price per Unit of the	Cost of Applying Pesticide	Other Costs per	Area Treated at Least	# of Applications	Cost per Area (2001\$) \$ 0.00	10 40.30
A Name of Product	B Target Pests    Nema todes   fundi	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G fe Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	Cost per Area (2001\$) \$ 0.00 \$ 0.00 \$ 0.00	
A Name of Product	B   Target Pests   Nem. hodes   Fungi   Weed Steds   Insects	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G fe Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	Cost per Area (2001\$) \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00	
A Name of Product	B   Target Pests   Nema hodes   fungi	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G fe Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	Cost per Area (2001\$) \$ 0.00 \$ 0.00 \$ 0.00	
A Name of Product	B   Target Pests   Nem. hodes   Fungi   Weed Steds   Insects	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G fe Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	Cost per Area (2001\$) \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00	
A Name of Product	B   Target Pests   Nem. hodes   Fungi   Weed Steds   Insects	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G fe Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	Cost per Area (2001\$) \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00	
A Name of Product	B   Target Pests   Nem. hodes   Fungi   Weed Steds   Insects	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G fe Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	\$ 0.00 \$ 0.00	
A Name of Product	B   Target Pests   Nem. hodes   Fungi   Weed Steds   Insects	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G fe Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	\$ 0.00 \$ 0.00	
A Name of Product	B   Target Pests   Nem. hodes   Fungi   Weed Steds   Insects	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G fe Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	\$ 0.00 \$ 0.00	
A Name of Product	B   Target Pests   Nem. hodes   Fungi   Weed Steds   Insects	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G fe Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	\$ 0.00 \$ 0.00	
A Name of Product	B   Target Pests   Mem. bides   Flingi   Weed Seeds   Insects   Lacteria	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G  Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	\$ 0.00 \$ 0.00	
A Name of Product  Basimid	B   Target Pests   Mem. bides   Flingi   Weed Seeds   Insects   Lacteria	C Active Ingredients (ai) in Product	D Formulation of Product	E lbs. ai per Area per Application	F Application Ra Units of product per Area per Application	G  Product Unit (e.g., lbs., gals)	H Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per	Area Treated at Least Once	# of Applications	\$ 0.00 \$ 0.00	

Comments:

If you do not have the quantitative data for additional crops grown on the same land, please indicate so in the comment section.

## Worksheet 3-B. Alternatives - Pest Control Regimen Costs for Alternative:

If you do not have the quantitative data for additional crops grown on the same land, please indicate so in the comment section.

If a consortium is submitting this application, the data for this table should reflect a representative user.

Product X

			-chemical pest con	ted that would	replace one tre	atment of meth	vi bromide ti	roughout the	i fumigation cy	rcie. See ine	s rumigation C	ycie
Col. A: Name of Product and Non-chemical Control	Worksheet for	auves and non a comprehens	ive definition of the	furnigation cy	cla. If multiple c	rops are grown	•	-	_	•		
Non-Chamical Control		•										
			plicant previously b	5	sttientlen	of anothed become	ita in the him	unation cycle	and you do no	ot have the	ouantitative da	ta for the
	If someone of	ner than the ap	plicant previously t d. please indicate	mon belitenes	ine application nents section b	elow.	ac iii vic ian	ngonon e jere	5,1 <b>5</b> ,55 55			
	crops grown o	n me same an	garding the species	30    1   10   00    11	enute controllar	thu the active i	naredient or	nesticide oro	duct			
Col. B: Target Pests												
Col. C: Active Ingredients	Use one row f	or each active	ingredient (ai). For	example, if a	product contain	s 2 ai's use 2 ro	ows for that p	roduct. Once	e a row is com	pleted for a	given product,	then only Col
Col. C. Active ingredients	B (if applicable	a), C, and E nee	ed to be completed	for additional	rows regardin							
Col. D: Formulation	Enter the form	ulation or the ?	6 of active ingredie	nt.								
Col. E, F, G: Application Rate	As a cross ch	ack, EPA ls req	uesting both the ar	mount of active	ingredient in C	ol. E and produ	ict applied p	er area in Co	l. F. Indicate t	he unit of th	e product in Co	ol. G.
· · · · · · · · · · · · · · · · · · ·	7,0 0 01000		. If the product is c			the total cost in	the last colu	mo (Col. M)	and override th	ne formula.	If a pesticide is	s applied by
Col. H. I, J. M: Prices and Costs	Use 2001 pric	es and costs.	. If the product is c e product in Col. H	usiom applied	you may enter	une total cost at	une less colo	(00)				
	the user, ente	t the buce of m	e product in Col. 11	and the cost t	, <b>a</b> ppi,g							
	_											
Col. K: Area Treated			ast one application									,
	Egler the gur	ber of applicat	ions in a furnigation	cycle compar	able to methyl	promide for this	alternative p	est control re	gimen. Since	this numbe	r is an average	, it does not
Col. L: # of Applications per Year												
Col. M: Cost per Area in 2001	Fotor the cost	per area in 20	01 dollars, Col. M	will be calculat	ed automatical	y using the data	a you have e	ntered for a c	nemical pest	control, or, t	ne ionnula in C	JOI. IN CAN US
Dollars	overridden if t	he cost per are	ea is known because if the form. Identify	e the product	Col A Forest	piled	in Col. B. Or	scribe the no	n-chemical pr	st control C	ol. 8-L. Enter	the costs in
Non-chemical Control	Enter data ne Col. M in 200		if the form, identity	THE COMMON	COI, A. Ellici II	ic wigor paora			•			
Area is defined below as follows	for each user acr	as for growers	cubic feet for post-	harvest opera	tions, and squa	re feet for struc	tural applicat	ions.				
Area is defined below as follows	TOT BUCH USBI. BUT	as ioi granare,						1	J	ĸ		M
A	8	С	D	E	F	G	H Price per	Cost of	Other	Area	l # of	Cost per
Name of Product	Target Pests	Active	Formulation of Product		Application Ra		Unit of the	Applying	Costs per	Treated		Area (2001)
		ingredients (ai) in	Figure	lbs. ai per	Units of	Product Unit	Product	Pesticide	Application	at Least	per Year	1
		Product		Area per Application	product per Area per	(e.g., lbs., gals)		bet Ytea	perarea	Once		
			1	Application	Application	<b>3</b> ,						1
		61	90% Chemical D.	<u> </u>	<del></del>		<del> </del>	!	<del> </del>		<del></del>	<u> </u>
	Pest Y, Pest Z	Chemical D, Chemical F	10% Chemical F	250	278	lbs	\$ 10 00	\$ 20.00	0			\$ 2,800 00
Product X	Pest V. Pest Y	Chemical C	100%			gal	\$ 5 GO	\$ 20 00	10	25	3	3 2.060.00
Product U	1.001.17.00	1					<u> </u>		!		ļ	\$ 0.00
							ļ		<del></del>	<u> </u>	<del> </del>	3 0.00
				ļ <u> </u>			ļ	1	<del> </del>	<del> </del>	<del> </del>	\$ 0.00
				<u> </u>		ļ	<b> </b>	ļ	ļ	<u> </u>	<del> </del>	\$ 0.00
							ļ	ļ	<del> </del>		<u> </u>	\$ 0.00
					<u> </u>			<del> </del>	<del> </del>		<del>                                     </del>	\$ 0.00
			<u> </u>	ļ			<del> </del>		<del> </del>	<del> </del>	<del> </del>	\$ 0.00
				ļ			ļ	ļ	ļ			\$ 0.00
			<u> </u>	-	<del> </del>	ļ	<del> </del>		<del> </del>	<del> </del>	<del>                                     </del>	\$ 0.00
	<u> </u>	<del> </del>	<u> </u>	<u> </u>	<u> </u>	Descriptio	-			ſ	<del> </del>	Cost/area
Non-Chemical Pest Control	Target Pests											3500.0
Control P	Pest J. Pest K	Control P is d	lone 2 times par ye	ar according t	o method	5.						3300.0
		<del> </del>										
	_l	.1								·	Tota	1 \$ 5,360.00
1			•									

# Worksheet 3-C. Alternatives - Crop/Commodity Yield and Gross Revenue for Alternative

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Basimid ID#\_\_\_\_\_\_

[Insert name of alternative]

If a consortium is submitting this appli	cation, the data for this table should i	enect a representative doct	an alternative compared to	a gross revenue when usin	a methyl bromide. Post-
The purpose of this worksheet is to id harvest and structural users may mod	lify this form to accommodate differen	ICES III oberations when broa	iding groot revenue		
Col. A: Crop/Commodity	changes in crop cycles resulting for fumigation cycle.	om alternative use in the cor	ne same interval of time comprising mments. See the Fumigation Cycle	VVOIKSTIBET TOT & COMPTONE	
		Lalanca indicate co in the C	on of methyl bromide in the fumigationments section below.		
Col. B: Price Factors	Enter in Col. B any factors that de	termine prices (e.g., grade, to processing) timing of har	ime, market). If you received differences, etc., you may itemize by using se of alternatives affects these prices.	more than one for. Nom	ze or aggregate these
Col. C: Unit of Crop/Commodity	Enter the unit of measurement for				
Col. D: Crop/Commodity Yield	Enter the number of units of crops				
Col. E: Price	Enter the average 2001 prices re-	ceived by the users for that o	representation and price factor.	vield and orice. If revenu	e is not equal to vield times
Col. F: Gross Revenue	price, you may override the formu	ila and enter a different revei	nue arnount. Please explain why th	is revenue amount is direct	ent in the comment section
Area is defined below as follows fo	r each user: acres for growers, cubic	feet for post-harvest operation	ons, and square feet for structural a	pplications.	F
A	В	C	D (ii) Vi 14	Price	Revenue
Crop/Commodity	Price Factors (grade, time, market)	Unit of Crop/Commodity (e.g., pounds, bushels)	Crop/Commodity Yield (Units per area)	(per unit of crop/commodity)	(per area)
		Jacking !	122,000 /ACIE	1/8 Cels/ Mec	82.560 /A (\$ 0.00
The Spedlings		d. Alleded	60,000/Ane	1311 Cents/shind	20,400/Ac\$ 0.00
		T. disident	200,000/RUE	4 Cento Back	8,000/A C \$ 0.00
Forb Root Stack		داره	450 /in	39.30 12	17,685/ACS 0.00
Total Second					\$ 0.00
					\$ 0.00
			<u></u>		\$ 0.00
					\$ 0.00
					\$ 0.00
					\$ 0.00
					\$ 0.00
•					\$ 0.00
				Total Revenue	129,645 /16 \$ 0.00
Comments: I estima	te their may concer	Se less prod of getting	ladio- with good seel and a	of having a	effective

## Worksheet 3-D. Alternatives - Changes in Other Costs for Alternative:

basic [Insert name of alternative]

If a consortium is submitting this application, the data for this table should reflect a representative user.

Factor data colleges and factor of the cost of alternative cost of alternat

Enter data only for costs (other than the cost of alternative pest control) that change as a result of using the alternatives instead of methyl bromide. Enter the whole cost, not just the incremental changes. Enter the cost in Col. B for custom operation costs, or in Col. C and D for operations done by user.

Col. A: Operation or Cost Item	Identify the operations or cost items that change as a result of not using methyl bromide.
Col. B: Custom Operation Cost	Enter custom operation costs that change in Col. B.
Col. C, D, E: Costs per Area	Enter in Col. C and D, material and labor costs per area that change for operations done by user. The total cost per area is calculated automatically from the values you enter in Cols. C and D.
Col. F: Typical Equipment Used	Identify changes in the typical equipment used by the user as a result of not using methyl bromide. Please be specific such as tractor horsepower. No cost data are required in this column.

Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.

A	В	С	D	E	<b>!</b> -
Operation or Cost Item	Custom		Typical		
	Operation Cost per Area	Material Cost per Area	Labor Cost per Area	Total Cost per Area	Equipment Used
		per Area			<u> </u>
Spice ling Basins		1035.30/Ac	50 /Acre	5 0.00 1035.3° \$ 0.00	Trackon + spiceles
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
	·			\$ 0.00	
				\$ 0.00	
				\$ 0.00	
Total Custom per Area	\$ 0.00		User Total per area	1040, 3º \$ 0.00	

Comments:

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# Worksheet 3-A. Alternatives - Technical Feasibility of Alternatives to Methyl

or o
In this worksheet, you should address why an alternative pest management strategy on the list (see previous page) is or is
not effective for your conditions. This worksheet contains 9 questions. You must complete one copy of worksheet 3-A for
each research study you use to evaluate a single methyl bromide alternative. Use additional pages as need.
The workshood 2. A year must complete one workshoot for each alternative, for each research study addressed. Please

For worksheet 3-A you must complete one worksheet for each alternative, for each research study addressed. Please number the worksheets as follows. For the same alternative, first research study, label the worksheet 3-A(1)(a). For the same alternative, second research study, label the worksheet 3-A(1)(b). For the first alternative, third research study, label the worksheet 3-A(1)(c). For the second alternative, first research study, label the worksheet 3-(A)(2)(a). For the second alternative, second research study, label the worksheet 3-(A)(2)(b).

When completing Section II, if you cite a study that is on the EPA website, you only need to complete questions 1, 5, and 8.

If you prefer, you may provide the information requested in this worksheet in a narrative review of one or more relevant research reports. The narrative review must reply to Section I and questions 1 through 8 in Section II. A Research Summary Worksheet of relevant treatments should be provided for each study reviewed.

#### BACKGROUND

EPA must consider whether alternative pest control measures (pesticide and non-pesticidal, and their combination) could be used successfully instead of methyl bromide by crop and circumstance (geographic area.) The Agency has developed a list of possible alternative pest control regimens for various crops, which can be found at http://www.epa.gov/ozone/mbr or by calling 1-800-296-1996.

There are three major ways you can provide the Agency with proof of your investigative work.

- (1) Conduct and submit your own research
- (2) Cite research that has been conducted by others
- (3) Cite research listed on the EPA website

Whether you conduct the research yourself or cite studies developed by others, it is important that the studies be conducted in a scientifically sound manner. The studies should include a description of the experimental methodology used, such as application rates; application intervals, pest pressure, weather conditions, varieties of the crop used, etc. All results should be included, fegardless of outcome. You must submit copies of each study to EPA unless they are listed on the Agency website.

The Agency has posted many research studies on a variety of crops on its website and knows of more studies currently in progress. EPA will add studies to its website as they become publicly available. You are encouraged to review the EPA website and other websites for studies that pertain to your crop and geographic area.

In addition, EPA acknowledges that, for certain circumstances, some alternatives are not technically feasible and therefore no research has been conducted (i.e. solarization may not be feasible in Seattle). You should look at the list of alternatives provided by the Agency and explain why they cannot be used for your crop and in your geographic area.

Use additional pa	ges as needed.	
Telone, Chloropic (1) 2 - 1 Tran Go-Alternative: [Insert Alternative]	Study:	[Insert Study Title]
Section I. Initial Screening on Technical Fe	easibility of Alte	ernatives Replace Middle &
Are there any location-specific restrictions that inhibit the us     la. Full use permitted	se of this alternative or	your site? with Frame charpens
1a. Full use permitted	_1/_	and Tilan Onemain
1b. Township caps		The import
1c. Alternative not acceptable in consuming country		
1d. Other (Please describe)	<u></u>	

If use of this alternative is precluded by regulatory restriction for all users covered by this application, the applicant should not complete Section II.

•	For EPA Use Only ID#
Worksheet 3-A. Alternatives - Technical Feasibilit Bromide	
Section II. Existing Résearch Studies on Alternati	ves to Methyl Bromide
1. Is the study on EPA's website?	)
1a. If not on the EPA website, please attach a copy.	
2. Author(s) or researcher(s)	
3. Publication and Date of Publication	
4. Location of research study	
5. Name of alternative(s) in study. If more than one alternative, list the on  Telone. Chloropici. and Tillan Combination	es you wish to discuss.
6. Was crop yield measured in the study? Yes No	)
7. Describe the effectiveness of the alternative in controlling pests in the	study.

8. Discuss how the results of the study apply to your situation. Would you expect similar results? Are there

other factors that would affect your adoption of this tool?

OMB Control # 2060-0482

# Worksheet 3-A. Alternatives - Technical Feasibility of Alternatives to Methyl Bromide

OMB Control # 2080-0482

For EPA Use Only ID#

esearch Summa	ry Table	Talone, Ci	hlorof	icric a	.17	Ham			X.	replacing	Me In w	Hyl Bi	on, le lore,	chlarap.	preplet
	Alternative:		Insert Al	ternative	1			Study:		on limit	-	[Insert St	ludy Ti	ile] Tra	uhunds
Provide one summary table	for each study being described.														
Provide a summary table of i	research information that will allow us ould directly compare methyl bromide a	compare the impact and the alternative re	of methyl gimen.	bromide an	id the atte	rnative regi	men on s	such things a	is pest con	trot, yield or o	uality of	the commod	lity being	treated, or ;	protected.
Col. A: Treatment Number	List the treatment number from th	e research study you	are citing	<b>I.</b>											
Col. B: Treatment	List what type of pest control met	nod was used.													
Col. C: Rate	Enter the pounds or gallons of a c														
Col. D, F, H, J, L, N: Interval	Enter the interval after treatment (e.g. 0 to 100 where 100 is compl	ete control).													
Cols. E, G, I, K, M, O: Rating for Interval:	Use these columns to describe the nematode population in the soil processes and the soil of the soil o	re-treatment, 3 week be over "Rating Inter	s after tre val 3" with	atment, and "6 weeks."	I 6 weeks If you are	completing	the print	inis example ted version,	please defi	ne Rating Int	erval in ti	SIVALI WILL	715-1166	innent, type	over "Rating
									siaa Cara						
(Cols. D - I and Cols. J -	For the target past(s) in the study for nematode control in tomatoes header below. In the comments soil, etc.)	may have looked at section describe the	sting nem rating syst	natode and tem used (C	stunt nen ) to 100 s	natode. Enti cale where i	er sting n D is no co	nematode foi ontrol, numb	er of nema	ne Coi Finea lodes per gra	der belov	v and stunt r , number of	nematod colony fo	e for pest 2 i	n the Col. L per gram of
(Cols. D - I and Cols. J - O): Col. J; Yleid	for nematode control in tomatoes header below. In the comments soil, etc.)  Enter the marketable yield of the	may have looked at section describe the crop or commodity a	sting nem rating system	natode and tem used (C y the units (	stunt nen ) to 100 s lbs./acre,	tons) in the	er sting n D is no co column l	nematode for control, numb header or co	er of nema	ne Coi Finea lodes per gra	der belov	v and stunt r , number of	nematode colony fo	e for pest 2 i	n the Col. L per gram of
Cols. D - I and Cols. J - O): Col. J: Yield	for nematode control in tornatoes header below. In the comments soil etc.\ Enter the marketable yield of the ollows for each user; acres for grower.	may have looked at section describe the crop or commodity a s, cubic feet for post-	sting nem rating syst and specify harvest op	natode and tem used (C y the units (I perations, a	stunt nem ) to 100 s lbs./acre, ind squar	natode. Enti- cale where i tons) in the a feet for str	er sting n D is no co column l uctural a	nematode for control, numb header or co	er of nema	ne Coi Finea lodes per gra	im of soil	, number of	- Colony ic	arting units	n the Col. L per gram of
(Cols. D - I and Cols. J - O): Col. J; Yleid	for nematode control in tornatoes header below. In the comments soil, etc.).  Enter the marketable yield of the ollows for each user: acres for grower.	may have looked at section describe the crop or commodity a s, cubic feet for post-	sting nem rating system	natode and tem used (C y the units (	stunt nem ) to 100 s lbs./acre, and squar	tons) in the	er sting n D is no co column l	nematode for control, numb header or co	er of nema	ne Coi Finea lodes per gra	oer belov	v and stunt r , number of	nematod colony fo	e for pest 2 in printing units	per gram or
(Cols. D - I and Cols. J - O): Col. J: Yield Area is defined below as i	for nematode control in tornatoes header below. In the comments soil etc.\ Enter the marketable yield of the ollows for each user; acres for grower.	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai	sting nem rating syst and specif, harvest or	natode and tem used (Cry the units (Inperations, a	stunt nem ) to 100 s lbs./acre, nd squar  F Pest 1	natode. Enticale where toons) in the effect for str	er sting n D is no co column h uctural a	nematode for control, numb header or copplications.	er of nema	ne Coi Finea lodes per gra	L Pest 2	, number of	N	0	P
(Cols. D - I and Cols. J - O): Col. J; Yleid Area is defined below as in A	for nematode control in tornatoes header below. In the comments soil, etc.).  Enter the marketable yield of the ollows for each user: acres for grower.	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai per area)	sting nem rating system and specify harvest op D	natode and tem used (Cry the units (Inperations, a	stunt nem ) to 100 s lbs./acre, nd squar  F Pest 1	natode. Enticale where toons) in the effect for str	er sting n D is no co column h uctural a	nematode for control, numb header or co	er of nema	ne Coi Finea lodes per gra action.	L Pest 2	M	N Interval	0	P Yield
(Cols. D - I and Cols. J - O): Col. J: Yield Area is defined below as in A Treatment Number	for nematode control in tomatoes header below. In the comments soil etc.\ Enter the marketable yield of the ollows for each user: acres for grower.  B Treatment  Telone (-17	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai	sting nem rating syst and specify harvest of D	natode and tem used (C) the units (I) perations, a  E  Rating for	stunt nem ) to 100 s lbs./acre, ind squar  F Pest 1 Interval	natode. Enti- cale where tons) in the election str G	er sting n D is no co column h uctural a H	nematode for ontrol, numb header or copplications.	r pest 1 in ter of nema	ne Cor Finea lodes per gracection.  K  Rating for	L Pest 2	M Rating for	N Interval	O Rating for	P Yield
(Cols. D - I and Cols. J - O): Col. J; Yleid Area is defined below as in A	for nematode control in tomatoes header below. In the comments soil, etc.)  Enter the marketable yield of the ollows for each user: acres for grower.  B  Treatment	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai per area)	sting nem rating syst and specify harvest of D	natode and tem used (C) the units (I) perations, a  E  Rating for	stunt nem ) to 100 s lbs./acre, ind squar  F Pest 1 Interval	natode. Enti- cale where tons) in the election str G	er sting n D is no co column h uctural a H	nematode for ontrol, numb header or copplications.	r pest 1 in ter of nema	ne Cor Finea lodes per gracection.  K  Rating for	L Pest 2	M Rating for Interval 2	N Interval	O Rating for	P Yield
(Cols. D - I and Cols. J - O): Col. J: Yield Area is defined below as in A Treatment Number	for nematode control in tomatoes header below. In the comments soil etc.\ Enter the marketable yield of the ollows for each user: acres for grower.  B Treatment  Telone (-17	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai per area)	sting nem rating syst and specify harvest of D	natode and tem used (C) the units (I) perations, a  E  Rating for	stunt nem ) to 100 s lbs./acre, ind squar  F Pest 1 Interval	natode. Enti- cale where tons) in the election str G	er sting n D is no co column h uctural a H	nematode for ontrol, numb header or copplications.	r pest 1 in ter of nema	ne Cor Finea lodes per gracection.  K  Rating for	L Pest 2	M Rating for Interval 2	N Interval	O Rating for	P Yield
(Cols. D - I and Cols. J - O): Col. J: Yield Area is defined below as in A Treatment Number	for nematode control in tomatoes header below. In the comments soil etc.\ Enter the marketable yield of the ollows for each user: acres for grower.  B Treatment  Telone (-17	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai per area)	sting nem rating syst and specify harvest of D	natode and tem used (C) the units (I) perations, a  E  Rating for	stunt nem ) to 100 s lbs./acre, ind squar  F Pest 1 Interval	natode. Enti- cale where tons) in the election str G	er sting n D is no co column h uctural a H	nematode for ontrol, numb header or copplications.	r pest 1 in ter of nema	ne Cor Finea lodes per gracection.  K	L Pest 2	M Rating for Interval 2	N Interval	O Rating for	P Yield
(Cols. D - I and Cols. J - O): Col. J; Yield Area is defined below as in A Treatment Number	for nematode control in tomatoes header below. In the comments soil etc.\ Enter the marketable yield of the ollows for each user: acres for grower.  B Treatment  Telone (-17	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai per area)	sting nem rating syst and specify harvest of D	natode and tem used (C) the units (I) perations, a  E  Rating for	stunt nem ) to 100 s lbs./acre, ind squar  F Pest 1 Interval	natode. Enti- cale where tons) in the election str G	er sting n D is no co column h uctural a H	nematode for ontrol, numb header or copplications.	r pest 1 in ter of nema	ne Cor Finea lodes per gracection.  K	L Pest 2	M Rating for Interval 2	N Interval	O Rating for	P Yield
O): Col. J: Yield Area is defined below as in A Treatment Number	for nematode control in tomatoes header below. In the comments soil etc.\ Enter the marketable yield of the ollows for each user: acres for grower.  B Treatment  Telone (-17	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai per area)	sting nem rating syst and specify harvest of D	natode and tem used (C) the units (I) perations, a  E  Rating for	stunt nem ) to 100 s lbs./acre, ind squar  F Pest 1 Interval	natode. Enti- cale where tons) in the election str G	er sting n D is no co column h uctural a H	nematode for ontrol, numb header or copplications.	r pest 1 in ter of nema	ne Cor Finea lodes per gracection.  K	L Pest 2	M Rating for Interval 2	N Interval	O Rating for	P Yield
(Cols. D - I and Cols. J - O):  Col. J: Yield  Area is defined below as in A  Treatment Number	for nematode control in tomatoes header below. In the comments soil etc.\ Enter the marketable yield of the ollows for each user: acres for grower.  B Treatment  Telone (-17	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai per area)	sting nem rating syst and specify harvest of D	natode and tem used (C) the units (I) perations, a  E  Rating for	stunt nem ) to 100 s lbs./acre, ind squar  F Pest 1 Interval	natode. Enti- cale where tons) in the election str G	er sting n D is no co column h uctural a H	nematode for ontrol, numb header or copplications.	r pest 1 in ter of nema	ne Cor Finea lodes per gracection.  K	L Pest 2	M Rating for Interval 2	N Interval	O Rating for	P Yield
(Cols. D - I and Cols. J - O):  Col. J: Yield  Area is defined below as in A  Treatment Number  / 2	for nematode control in tomatoes header below. In the comments soil etc.\ Enter the marketable yield of the ollows for each user: acres for grower.  B Treatment  Telone (-17	may have looked at section describe the crop or commodity as, cubic feet for post-C Rate (lbs. or gals. ai per area)	sting nemrating system of specify harvest on the specify harvest on the specify system of the system	natode and tem used (C) the units (I) perations, a  E  Rating for Interval 1	stunt nem ) to 100 s  lbs /acre,  nd squar  F  Pest 1  Interval 2	natode. Enti- cale where tons) in the election str G	er sting n D is no co column h uctural a H	nematode for ontrol, numb header or copplications.	r pest 1 in ter of nema	ne Cor Finea lodes per gracection.  K	L Pest 2	M Rating for Interval 2	N Interval	O Rating for	P Yield

Example Research S	Summarv	Ta	ab	İ
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•	Alternative		Ex	ample		<del></del>		Study:							
•	or each study being described.														
Provide a summary table of real a research study should direct	esearch information that will allow us atly compare methyl bromide and the	compare the impact alternative regimen.	of methyl	bromide an	d the altern	ative regime	en on suc	n things as	pest cont	rol, yield or q	uality of the	e commodity	being trea	ited, or prot	ected. Ideally,
Col. A: Treatment Number	List the treatment number from th	e research study you	u are citing	].											
Col. B: Treatment	List what type of pest control method was used.														
Col. C: Rate	Enter the pounds or gallons of a chemical used, days of solarization, etc.														
Col. D, F, H, J, L, N: Interval	Enter the intervals (days, weeks or months) that the rating was taken for each treatment in Columns D. F. H. J. L. and N. For example, a study for nematode control may have looked at nematode population in the soil pre-treatment, 3 weeks after treatment, and 6 weeks after treatment. For this example, insert "pre-treatment" in the "Interval 1" column, insert "3 weeks" in the "Interval 2" column, and insert "6 weeks" in the "Interval 3" column."														
Cols. E, G, I, K, M, O: Rating for Interval:	In columns E, G, I, K, M, and O insert the rating ( the level of control provided for a specific pest) for each interval for each treatment described. In this example, for the methyl bromide treatment for stling nematode enter 669 for the "Rating for Interval 1", 221 for the "Rating for Interval 2", and 120 for the "Rating for Interval 3." In the comments section below describe the rating scale (e.g., nematodes per gram of soil, number of colony forming units per gram of soil, etc.).														
Control of Pests 1 and 2 (Cols. D - I and Cols. J - O):															
Col. J: Yleld	Enter the marketable yield of the	crop or commodity a	nd specify	the units (I	bs./acre, to	ins) in the c	olumn he	ader or com	ments se	ction.					
Area is defined below as fo	llows for each user, acres for growers	, cubic feet for post-	harvest op	erations, a	nd square	feet for struc	tural app	lications.							
A	В	С	D	E	F	G	Н	ı	j	К	Ĺ	М	N	0	Р
Treatment	Treatment	Rate		Sti	ng nemato	ode				Stu	int nemato	ode			Yield (lbs/acre)
Number		(lbs. or gals. al per area)		Rating for	Interval 2	Rating for		Rating for Interval 3	Interval	Rating for Interval 1	Interval 2	Rating for Interval 2	Interval 3	Rating Interval 3	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
1	Untreated		pre-trt	Interval 1 700	3 wks	700	ā wks	797	pre-Irt	100	3 wks	111	ð wks	109	5.000
2	Methyl Bromide	300 gai.	pre-trt	569	3 wks	221	3 vx5	120	pre-trt	56	3 wks	77	6 wks	36	3,000
		150 gal.	pre-trt	675	3 wks	1 250	3 wks	1 125	nl-910	111	3 wks	35	ō wks	32	7,580
3	lodo methane	100 yai.	pre-in		3 ////3		-	1							
			<del> </del>									<u> </u>			
						1	ļ	i							
						1	<del></del>	<u> </u>							

Comments:

Ratings are for nematodes per gram of soil

OMB Control # 2060-0482

Worksheet 3-B. Alternatives - Pest Control Regimen Costs for Alternative:

G17	For EPA Use Only	
Telone & Tillan	ID#	
	ert name of alternative]	

f a consortium is submitting this ap	plication, the data	for this table sh	ould reflect a repr	esentative us	ser.							
Col. A: Name of Product and Non-chemical Control	Worksheet for single growing pesticides that	a comprehensi season, or stra are used along	chemical pest con ve definition of the wberries followed with methyl bromi	fumigation cy by lettuce ove de-enter only	rcle. If multiple cr er 2 or 3 years) in y the additional p	ops are grown clude all of the est control if m	during the in: pesticides the ethyl bromide	terval betwe at replace m were not av	en fumigations nethyl bromide vailable.	(e.g. tomat for the entir	oes followed by e interval. Do	not include
	crops grown or	the same land	ilicant previously b	so in the com	ments section be	low.				ot have the	quantitative da	la for the
Col. B: Target Pests	l		arding the species									
Col. C: Active Ingredients	Use one row fo B (if applicable	Use one row for each active ingredient (ai). For example, if a product contains 2 also use 2 rows for that product. Once a row is completed for a given product, then only Col. B (if applicable), C, and E need to be completed for additional rows regarding the same product.										
ol. D: Formulation		Enter the formulation or the % of active ingredient.										
Col. E, F, G: Application Rate	1		esting both the ar									
Col. H, I, J, M: Prices and Costs	the user enter	the price of the	If the product is construction of the product in Col. Hotion at the bottom	and the cost	of applying it in C	ol, I. Enter an	y other costs	associated :	with applying	this product	If a pesticide is in Col. J, spec	applied by ifying what
Col. K: Area Treated	i		ast one application									
Coi. L: # of Applications per Year	need to be a v	Enter the number of applications in a fumigation cycle comparable to methyl bromide for this alternative pest control regimen. Since this number is an average, it does not need to be a whole number.										
Col. M: Cost per Area in 2001	Enter the cost per area in 2001 dollars. Col. M will be calculated automatically using the data you have entered for a chemical pest control, or, the formula in Col. M can be overridden if the cost per area is known because the product was custom applied.											
Non-chemical Control	Enter data nea Col. M in 2001	or the bottom of dollars.	the form. Identify	the control in	Col. A. Enter th	e target pests			on-chemical p	est control C	ol. B-L. Enter	the costs in
Area is defined below as follows	for each user, acre	s for growers,	ubic feet for post-	harvest opera	itions, and squar	e feet for struc	ural applicati	ons.				
. А	8	С	0	E	F	G	Н	ı	J	К	L	М
Name of Product	Target Pests	Active Ingredients (ai) in Product	Formulation of Product	lbs. ai per Area per Application	Units of product per Area per Application	Product Unit (e.g., lbs., gals)	Price per Unit of the Product	Cost of Applying Pesticide per Area	Other Costs per Application	Area Treated at Least Once	# of Applications per Year	
Telone C-17	nematodes		13-dichory	ترماز بدين	يواردا ليوا	I jel	13,25/2.	P	-			\$_0.00 \$ 0.00
Tillam	B. Deria	77.32 %	Chlospicia	2 165	216 105	165	7.66/160	LT				3 0.00
1111111	West Soed		<u></u>	<del> </del>			!			<u>.                                    </u>	1	\$ 0.00
												\$ 0.00
					1		<del>                                     </del>			<u>!</u>	<del> </del>	\$ 0.00
												\$ 0.00
	<u> </u>						<u>i</u>		1			\$ 0.00
										1		\$ 0.00
Non-Chemical Pest Control	Target Pests			<u> </u>	1	Descriptio	n	·		<u>!</u>	!	Cost/area
		<del> </del>							,	<del></del>		1
	<b>!</b>	1									<del></del>	<del>-  </del>

Comments:

If you do not have the quantitative data for additional crops grown on the same land, please indicate so in the comment section.

## Worksheet 3-B. Alternatives - Pest Control Regimen Costs for Alternative:

Product X

Col. B: Target Pests  Col. C: Active ingredients  Col. D: Formulation  Col. E, F, G: Application Rate  Col. H, I, J, M: Prices and Costs  Col. K: Area Treated  Col. L: # of Applications per Year  Col. M: Cost per Area in 2001  Dollars  Non-chemical Control  Area is defined below as follows for experiments.	crops grown or Be as specific Use one row fo B (if applicable Enter the form As a cross che Use 2001 pric the user, enter Enter the area Enter the num need to be a w Enter the cost overridden if the Enter data need	as possible reg or each active is a), C, and E nee ulation or the % ack, EPA is requ ces and costs. If the price of the infectiving at less whole number. If per area in 200 the cost per area ar the bottom of a dollars.	plicant previously bid, please indicate a parding the species of the completed to be product in column as to one application ons in a furnigation of the form. Identify the form. Identify the form. Identify the product for nost-indicate the form.	or classes of example, if a productive control in	prents section because controlled product contains rows regardin ingredient in Coyou may enter if applying it in a section and automatically was custom and Col. A. Enter the	blow.  I by the active in a 2 ai's use 2 ro  ol. E and produ the total cost in a 2 ai's use 2 ro  oromide for this y using the data	ngredient or pows for that pows for that pows for that pows for the last colur alternative pows you have en	resticide product. Once ir area in Col. mn (Col. M) a est control re	duct. a a row is com b. F. Indicate the and override the angumen. Since the angumen is a since the angumen of the angumen.	pleted for a me unit of the le formula. Ithis number control, or, the	given product, e product in Co If a pesticide is r is an average	then only Col.  I. G. applied by  , it does not ol. M can be
Col. C: Active Ingredients  Col. D: Formulation  Col. E, F, G: Application Rate  Col. H, I, J, M: Prices and Costs  Col. K: Area Treated  Col. L: # of Applications per Year  Col. M: Cost per Area in 2001  Dollars  Non-chemical Control  Area is defined below as follows for each	Use one row for B (if applicable Enter the forms As a cross che Use 2001 price the user, enter the area Enter the num need to be a we Enter the cost overridden if the Enter data need to the cost overridden if the Enter data need to the cost overridden if the Enter data need to the cost overridden if the Enter data need to the cost overridden if the Enter data need to the cost overridden in the cost overridden in the cost overridden	or each active is a), C, and E need ulation or the % each, EPA is requires and costs. In the price of the price of application of a polication of a per area in 200 the cost per area are the bottom of a dollars.	ngredient (ai). For ad to be completed of active ingredient uesting both the and if the product is one application one in a furnigation on the form. Identify the form. Identify it is nown because of the form. Identify	example, if a property for additional int.  mount of active ustom applied and the cost of the pesticid cycle comparable will be calculate the product of the control in	ingredient in Coyou may enter if applying it in able to methyl to ad automatically was custom app.	ol. E and produ the total cost in promide for this y using the data	ct applied pe the last colur alternative po	rarea in Col mn (Col. M) a est control re	e a row is com  F. Indicate the sand override the signmen. Since the since t	this number	e product in Co If a pesticide is r is an average ne formula in C	I. G. applied by , it does not
Col. D: Formulation  Col. E, F, G: Application Rate  Col. H, I, J, M: Prices and Costs  Col. K: Area Treated  Col. L: # of Applications per Year  Col. M: Cost per Area in 2001  Dollars  Non-chemical Control  Area is defined below as follows for each of the control of the cont	B (if applicable Enter the forms As a cross che Use 2001 pric the user, enter Enter the area Enter the num need to be a w Enter the cost overridden if the Enter data need Col. Min 2001	e), C, and E nee ulation or the % ack, EPA is requires and costs. In the price of the receiving at least the price of application whole number. It per area in 200 the cost per area ar the bottom of	ad to be completed of active ingredier uesting both the an if the product is one product in Col. He ast one application ons in a fumigation of the form. Identify	for additional int.  mount of active ustom applied and the cost of the pesticid cycle comparable the control in	ingredient in C you may enter f applying it in e. able to methyl t ad automaticall yes custom applying it in the control of th	ol. E and produ the total cost in promide for this y using the data	ct applied pe the last colur alternative p you have an	er area in Col nn (Col. M) a est control re	. F. Indicate the sand override the signmen. Since the sherical pest of the sand since the sand	this number	e product in Co If a pesticide is r is an average ne formula in C	I. G. applied by , it does not ol. M can be
Col. D: Formulation  Col. E, F, G: Application Rate  Col. H, I, J, M: Prices and Costs  Col. K: Area Treated  Col. L: # of Applications per Year  Col. M: Cost per Area in 2001  Dollars  Non-chemical Control  Area is defined below as follows for each of the second points of the seco	Enter the forms As a cross che Use 2001 pric the user, enter Enter the area Enter the num need to be a w Enter the cost overridden if the Enter data nee	ulation or the % ack, EPA is requires and costs, r the price of the receiving at lea aber of application whole number. It per area in 200 the cost per area ar the bottom of a dollars.	of active ingredier uesting both the an if the product is or e product in Col. H ast one application ons in a fumigation of dollars. Col. M a is known because f the form. Identify	nount of active ustom applied and the cost of of the pesticion cycle compar will be calculat a the product the control in	ingredient in C you may enter f applying it in a. able to methyl t ad automatically yas custom app Col. A. Enter the	the total cost in promide for this y using the data	the last colur alternative pr	mn (Col. M) a est control re	and override the	this number	If a pesticide is r is an average ne formula in C	, it does not
Col. H, I, J, M: Prices and Costs  Col. K: Area Treated  Col. L: # of Applications per Year  Col. M: Cost per Area in 2001  Dollars  Non-chemical Control  Area is defined below as follows for elements.	Enter the area Enter the num need to be a w Enter the cost overridden if the	r the price of the receiving at least the price of application of the receiving at least the per area in 200 the cost per area ar the bottom of a dollars.	If the product is come product in Col. He ast one application ons in a furnigation of dollars. Col. Moda is known because the form. Identify	of the pesticide cycle compar will be calculate the product the control in	you may enter f applying it in  a. able to methyl t ad automaticallyes custom app	the total cost in promide for this y using the data	the last colur alternative pr	mn (Col. M) a est control re	and override the	this number	If a pesticide is r is an average ne formula in C	, it does not
Col. K: Area Treated  Col. L: # of Applications per Year  Col. M: Cost per Area in 2001  Dollars  Non-chemical Control  Area is defined below as follows for each of the colors of the c	Enter the area Enter the num need to be a w Enter the cost overridden if the	r the price of the receiving at least the role application whole number.  It per area in 200 the cost per area ar the bottom of a dollars.	e product In Col. H ast one application ons in a fumigation 01 dollars. Col. M a is known because f the form. Identify	of the pesticided of the pesticided of the pesticided of the pesticided of the control in the control in	f applying it in  e.  able to methyl to  ad automatically  vas custom apply  Col. A. Enter the	promide for this y using the data	alternative pr	est control re	igimen. Since hemical pest c	this number	r is an average ne formula in C	, it does not ol. M can be
Col. L: # of Applications per Year Col. M: Cost per Area in 2001 Dollars Non-chemical Control  Area is defined below as follows for el	Enter the num need to be a w Enter the cost overridden if the Enter data near	whole number.  per area in 200 he cost per area ar the bottom of	ons in a fumigation 01 dollars. Col. M v a is known because f the form. Identify	will be calculate the product in	able to methyl bed automatically vas custom appearance the Col. A. Enter the	y using the data	you have er	itered for a c	nemical pest o	ontrol, or, t	ne formula in C	ol. M can be
Year Col. M: Cost per Area in 2001 Dollars Non-chemical Control  Area is defined below as follows for each	enter the cost overridden if the Enter data near	whole number.  per area in 200 he cost per area ar the bottom of	01 dollars. Col. M v a is known because f the form. Identify	will be calculate the product the control in	ad automatically vas custom app Col. A. Enter th	y using the data	you have er	itered for a c	nemical pest o	ontrol, or, t	ne formula in C	ol. M can be
Non-chemical Control  Area is defined below as follows for each	Enter data nea	he cost per are: ar the bottom of t dollars.	a is known because f the form. Identify	the control in	vas custom app Col. A. Enter th	olied						
Area is defined below as follows for each	Col. M in 2001	l dollars.				ie targel pests i	n Col. B. De	schoe me no	m-chemical pe	ist control C	Q1, D*C. CINO	
A	each user, acre	s for growers,	cubic feet for nost-l									
			Cubic icet ioi pour	harvest opera	ions, and squar						- <del> </del>	
Name of Product T:	8	С	D	E	F	G	H Price per	Cost of	J Other I	K Area	L # of	M Cost per
	Target Pests	Active Ingredients (ai) In Product	Formulation of Product	lbs. ai per Area per Application	Units of product per Area per Application	Product Unit (e.g., lbs., gals)	Unit of the Product	Applying Pesticide per Area	Costs per Application per area	Treated at Least Once		Area (2001\$
		Chemical D.	90% Chemical D, 10% Chemical F	250	278	lbs	\$ 10 00	3 20.00	0	25	1	\$ 2,800.00
100uct A	est Y, Pest Z est V, Pest Y	Chemical C	100%	150	200		3 5.00	\$ 20.00	10	25	2	\$ 2,060.00
Product U Pes	est v, rest i	Chemicario		<del></del>								\$ 0.00
		<del> </del>									İ	\$ 0.00
		<del> </del>									1	3 0.00
									<u> </u>		<u> </u>	\$ 0.00
											<del>!</del>	\$ 0.00 \$ 0.00
			<u> </u>	<b></b>					ļ		ļ	\$ 0.00
				ļ <u>.                                    </u>					<del> </del> -			\$ 0.00
		<u> </u>		<del> </del>			<u> </u>		<del> </del>			\$ 0.00
		ļ.— <del>—</del>	1						<del> </del>			\$ 0.00
	Target Bests	<del> </del>			<u> </u>	Description	1					Cost/area
Non-Chemical Pest Control	Target Pests	Capted Divis	one 2 times per ye.	ar according to	methods	<u></u>						\$500.00
Control P Pe	est J. Pest K	Control P is d	one 2 maes per ye.	a, according to								

If you do not have the quantitative data for additional crops grown on the same land, please indicate so in the comment section.

Worksheet 3-C. Alternatives - Crop/Commodity Yield and Gross Revenue for Alternative Telephone C-17 and Tillan [Insert name of alternative]

If a consortium is submitting this application, the data for this table should reflect a representative user.												
The purpose of this worksheet is to identify the gross revenue for units (crop, commodily, structure) when using an alternative compared to gross revenue when using methyl bromide. Post-harvest and structural users may modify this form to accommodate differences in operations when providing gross revenue data.												
Col. A: Crop/Commodity	Enter all crops/commodities that c changes in crop cycles resulting fr fumigation cycle.	Enter all crops/commodities that can be grown/treated during the same interval of time comprising a methyl bromide fumigation cycle. Please discuss changes in crop cycles resulting from alternative use in the comments. See the Fumigation Cycle Worksheet for a comprehensive definition of the fumigation cycle.										
·	If someone other than the applicant benefits from the application of methyl bromide in the fumigation cycle and you do not have the quantitative data for the crops grown on the same land, please indicate so in the comments section below.											
Col. B: Price Factors	Enter in Col. B any factors that determine prices (e.g., grade, time, market). If you received different prices for your crop/commodity as a result of quality, grade, market (e.g., fresh or processing), timing of harvest, etc., you may itemize by using more than one row. Itemize or aggregate these factors to the extent appropriate in making the case that the use of alternatives affects these price factors.											
Col. C: Unit of Crop/Commodity	Enter the unit of measurement for your crop/commodity.											
Cal. D: Crop/Commodity Yield	Enter the number of units of crop/commodity produced per area for that price factor identified.											
Col. E: Price	Enter the average 2001 prices received by the users for that crop/commodity and price factor.											
Col. F: Gross Revenue	In the electronic version, revenue is automatically calculated below using the data you entered for yield and price. If revenue is not equal to yield times price, you may override the formula and enter a different revenue amount. Please explain why this revenue amount is different in the comment section											
Area is defined below as follows for	Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.											
A	8	C	0	E	F							
Crop/Commodity	Price Factors (grade, time, market)	Unit of Crop/Commodity (e.g., pounds, bushels)	Crop/Commodity Yield (Units per area)	Price (per unit of crop/commodity)	Revenue (per area)							
		(-9,		','								
Tree Secollings		I. divided	/22,000 / ALIR	68 reals /trea	82,960/1,5 0.00							
Shrab Seedlings,		Tedivided	60,000 / Ac1s	34 cents/short	20,400/1,\$0.00							
took Food Stock		Individual .	200,000 / Acie	37.30 per 16	8.000/Ac\$ 0.00 17.685/Ac\$ 0.00							
For Soed		104-10	450 / Acte	39.30 per 16	\$ 0.00							
					\$ 0.00							
				<u> </u>	\$ 0.00							
					\$ 0.00							
					\$ 0.00							
-					\$ 0.00							
					\$ 0.00							
					\$ 0.00							
					\$ 0.00							
				Total Revenue	129.045/AL\$ 0.00							
Comments:												

Worksheet 3-D. Alternatives - Changes in Other Costs for Alternative:

Telove C-17 + 7/11a 10#
[Insert name of alternative]

If a consortium is submitting this app	olication, the data for this table s	inould reflect a represei	ntative user .		
Enter data only for costs (other than just the incremental changes. Enter	the cost of alternative pest contribute the cost in Col. B for custom of	trol) that change as a reperation costs, or in Co	esult of using the alternative.  I. C and D for operations of	ves instead of methyl bromide done by user.	. Enter the whole cost, not
Col. A: Operation or Cost Item	Identify the operations or cos	t items that change as a	a result of not using methy	l bromide.	
Col. B: Custom Operation Cost	Enter custom operation costs	that change in Col. B.			
Col. C, D, E: Costs per Area	automatically from the values	you enter in Cols. C ar	nd D.	ations done by user. The tota	
Col. F: Typical Equipment Used	Identify changes in the typica horsepower. No cost data ar	I equipment used by the e required in this colum	e user as a result of not us in.	sing methyl bromide. Please	be specific such as tractor
Area is defined below as follows fo	or each user: acres for growers,	, cubic feet for post-han	vest operations, and squa	re feet for structural application	ons.
A	В	С	D	E	F
Operation or Cost Item	Custom		Operation Done by Us	er	Typical Equipment Used
	Operation Cost per Area	Material Cost per Area	Labor Cost per Area	Total Cost per Area	Equipment occu
Telone C-17 and Tillan				\$ 0.00	
				\$ 0.00	
				\$ 0.00 \$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				S 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00 \$ 0.00	
				\$ 0.00	
Total Custom per Area	\$ 0.00		User Total per area		
Total Custom ber Area!	¥ 0.00				

Comments:

No charge in lost us Melly branide

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ID#	•

## Worksheet 4. Alternatives - Future Research Plans

Please describe future plans to test alternatives to methyl bromide. (All available methyl bromide alternatives from the alternatives list should have been tested or have future tests planned.) There is no need to complete a separate worksheet for future research plans for each alternative - you may use this worksheet to describe <u>all</u> future research plans.

1. Name of study:	Basin: 2 Tiels
2. Researcher(s):	Gale Ranglan
2. (10000.0.0)	
3. Your test is plan	ed for: 2003
4. Location:	Moso- She Tree Nasen
5. Name of alternat	_
Basimid	
6. Will crop yield be	measured in the study? Yes No
have been tested	ng is not planned, please explain why. (For example, the available alternatives and found unsuitable, an alternative has been identified but is not yet s crop, available alternatives are too expensive for this crop, etc.)
	-

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## Worksheet 5. Additional Information

1.	How will you minimize your use and/or emissions of methyl bromide?	
	1a. Check all methods you will use Nothing	
	Tarpaulin (high density polyethylene)	
	Virtually impermeable film (VIF)	
	Cultural practices (please specify)	<u> </u>
	1b. Will you use other pesticides to reduce use of methyl bromide?.	
	If yes please specify. Basim: 1	
	1c. Other non-chemical methods: (please specify):  More Weeding	
2.	Do you have access to recycled methyl bromide?  Yes No X	
	If yes, how many pounds? lbs.	
3.	Do you anticipate that you will have any methyl bromide in storage on January 1, 2005?  YesNo	
	If yes, how many pounds?lbs.	
4.	What is the cumulative amount spent to date by the user or consortium on research to develop alternatives to methyl bromide (beginning in 1992)?	
5.	Other investments, if any, made to reduce your reliance on methyl bromide. Describe each investment and its associated cost.	
6.	Identify what factors would allow you to stop or reduce your use of methyl bromide (e.g. registration of particular pesticide; completion of research plan; capital outlay).  If basimil proved to be reduced and an arrival.	
	When do you expect these to occur?	
7.	Range of acres farmed by growers included in this application? (insert number of users in each category)	
	0-10 acres	
	10-25 acres	
	25-50 acres	
	50-100 acres	
	100-200 acres	
	200-400 acres	
	over 400 acres	

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ID#	•	•

Title Assissa Viller Marga

### Worksheet 5. Additional Information (continued)

8.	Range of square feet of the area to which applicants included in this application will apply methyl bromide? (insert number of use each category)	rs in
	0 - 5,000 sq. ft.	
	5,001 - 10,000 sq. ft.	
	10,001 - 20,000 sq. ft.	
	20,001 - 40,000 sq. ft.	
	40,001 - 80,000 sq. ft. 80,001 - 160,000 sq. ft.	
	/ over 160,000 sq. ft.	•
	<u></u>	
		•
	I certify that all information contained in this document is factual to the best of m  Signature   Print Name   Ga/2   Lamping.	Date 8-19-02  Title Assistant Naisen Manage
	Information in this application may be aggregated with information from other ap States government to justify claims in the national nomination package that a paconsidered "critical" and authorized for an exemption beyond the 2005 phaseou crucial to making compelling arguments in favor of critical use exemptions. By assert any claim of confidentiality that would affect the disclosure by EPA of agginformation contained in this application.	articular use of methyl bromide be it. Use of aggregate data will be signing below, you agree not to
	Signature Ale Alen	Date 9-02
P	Print Name Gala Ramphen	Title Assissa & Nather Marg

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. Public reporting burden for this collection of information is estimated to average 324 hours per response and assumes a large portion of applications will be submitted by consortia on behalf of many individual users of methyl bromide. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a current OMB control number.

For EPA Use Only	
1D#	

#### Worksheet 6. Application Summary

This worksheet will be posted on the web to notify the public of requests for critical use exemptions beyond the 2005 phase out for methyl bromide. Therefore, this worksheet cannot be claimed as CBI.

- 1. Name of Applicant:

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- 3. Crop: Tree Serdlings, Short Seedlings, Forb Rout Stock and Forb Seed
- 4. Pounds of Methyl Bromide Requested 2005 7900 185
- 5. Area Treated with Methyl Bromide 2005 40 Acres uni
- 6. If methyl bromide is requested for additional years, reason for request:

Im	ton	Convinced	the o	Hereadives	w:11	provide	adequate	results	
						/			
	2006 9	400 lbs.	Area Trea	ted 40 Acres		units			
	2007 9	400 lbs.	Area Trea	ted 40 Hous		units			

Place an "X" in the column(s) labeled "Not Technically Feasible" and/or "Not Economically Feasible" where appropriate. Use the "Reasons" column to describe why the potential alternative is not feasible.

Potential Alternatives	Not Technically Feasible	Not Economically Feasible	Reasons
Basimid	X		May not get a good seal therefore unsetistecting year
Steam on Hot Water	X		May not get a good seal therefore unsatisficting year. We have several acres and no equipment to do it wi
Telone C-17 and Tilla-	K		fesults are not as good as metal Branile
Melan sodius	X		Results are to inconsistent and unreliable
		. ,	

# **Fumigation Cycle Definitions:**

Fumigation cycle:	The period of time between methyl bromide fumigations.
Year:	If a fumigation cycle overlaps more than one calendar year, "year" refers to the calendar year when methyl bromide is applied (or the beginning of the cycle).
Comparable data:	In order to compare revenues and costs with and without methyl bromide, data on alternatives for pest control, yields, revenues, and costs must be for the same time interval as the methyl bromide fumigation cycle. If, however, quantitative data, is not available for the entire fumigation cycle, then to be comparable, the quantitative data for the alternatives should cover the same portion of the fumigation cycle as the quantitative data for methyl bromide, and the rest of the cycle should be discussed in the comments sections.
2-year example:	If a methyl bromide fumigation is made every 2 years, then the 2001 fumigation cycle began in 2001 and would end in 2003. The data should cover the methyl bromide costs and usage for the methyl bromide fumigation made in 2001, and all yields and revenues received and other costs incurred during the 2 year period. To be comparable, the data on alternatives should cover a similar 2 year period beginning in 2005 beginning at the same time of year when a methyl bromide fumigation would be made. The data should cover all methyl bromide alternatives used, and all yields and revenues received during that 2-year interval. Other pest control and other costs would only need to be provided for that interval if they would change from what they were with methyl bromide.
Other beneficiary example	If someone other than the applicant benefits from a methyl bromide fumigation, you should comment on these benefits if you do not have quantitative data for the entire fumigation cycle. For example, if a rotational crop in the second year benefits from a methyl bromide fumigation a year earlier, but there is quantitative data only on the first crop, then the data on the alternatives should cover only the first crop, and the benefits of methyl bromide and the additional pesticides that would have to be used on the rotational crop should be discussed in the comments sections.
Crop cycle change example:	If in a one year interval, methyl bromide is applied, tomatoes are grown and harvested followed by peppers, then the fumigation cycle would be one year including the tomatoes and peppers. If, however, without methyl bromide, it is not possible to follow tomatoes with peppers in the same one year interval, then the alternative data on pesticides, costs, yields, and revenues should just cover tomatoes. The loss of profit from not being able to grow peppers with the alternatives would be part of the loss from not having methyl bromide.

